

# Spot Safety Project Evaluation

## Project Information

Order ID: 41000028053

Project ID: 05-09-204

Location: SR 1800 (Cheek Road) at SR 1818 (Burton Road)

County: Durham

City: Durham

Division: 5

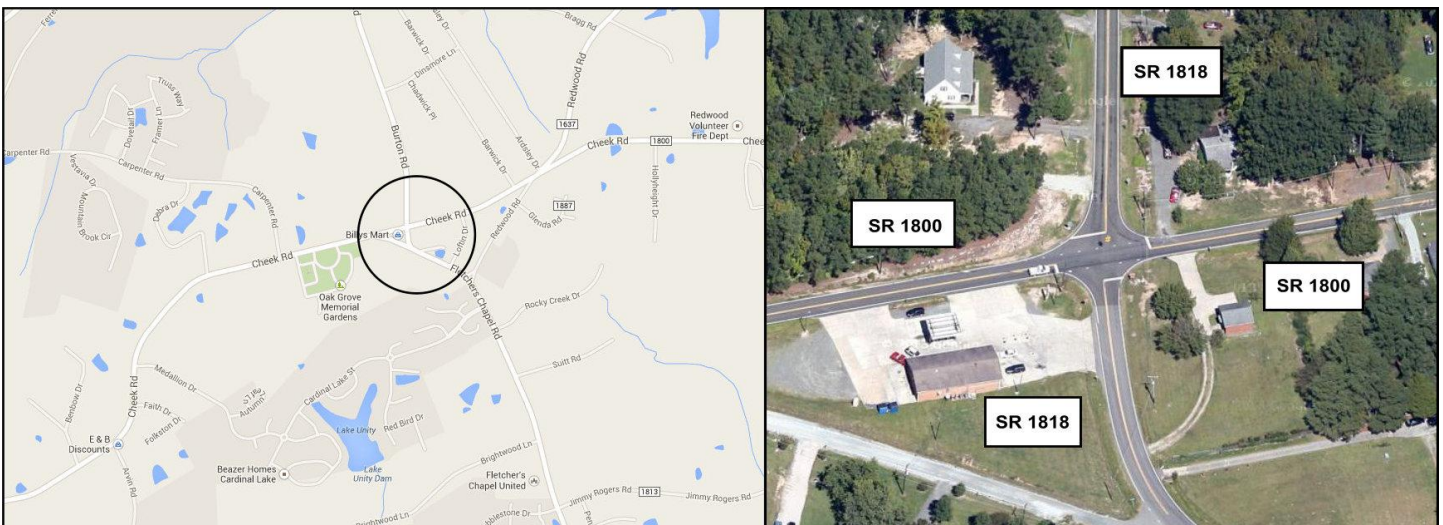
Signal ID: 05-1789

Countermeasure: Signal Revision– Install Non-Actuated Overhead Flasher with Four-Way Stop Control

Project Completion: December 23, 2009

Project Cost: \$21,500

## Map and Aerial (from Google Maps)



### **Naive Before and After Analysis**

Before Period: October 1, 2005 through October 31, 2009 (4 years, 1 month)

Const. Period: November 1, 2009 through January 31, 2010

After Period: February 1, 2010 through February 28, 2014 (4 years, 1 month)

Analysis Criteria: Treatment data consisted of all crashes within 150 feet of the subject intersection for the SR 1800 and SR 1818 approaches.

Target Crashes: Frontal Impact Crashes. Please note that Frontal Impact Crashes were the target crashes for the applied countermeasure. Frontal Impact crashes include: Left turn, same roadway; Left turn, different roadways; Right turn, same roadway; Right turn, different roadways; Head on; and Angle.

<b><u>Treatment Information</u></b>	<b>Before</b>	<b>After</b>	<b>Percent Reduction (-) Percent Increase (+)</b>
Total Crashes	26	3	- 88.5 %
Total Severity Index	6.19	1.00	- 83.8 %
Target Crashes	20	3	- 85.0 %
Target Crash Severity Index	6.64	1.00	- 84.9 %
Volume (2007, 2012)	8,200	6,900	- 15.9 %

<b><u>Injury Crash Summary</u></b>	<b>Before</b>	<b>After</b>	<b>Percent Reduction (-) Percent Increase (+)</b>
Fatal injury Crashes	0	0	N/A
Class A injury Crashes	1	0	- 100.0 %
Class B injury Crashes	5	0	- 100.0 %
Class C Injury Crashes	3	0	- 100.0 %
Property Damage Only	17	3	- 82.4 %

<b><u>Additional Information</u></b>	<b>Before</b>	<b>After</b>	<b>Percent Reduction (-) Percent Increase (+)</b>
Angle Crashes (Target)	17	2	- 88.2 %
Left Turn, Different Roadway (Target)	3	1	- 66.7 %
Northbound-Westbound Angle Crashes	7	0	- 100.0 %
Southbound-Westbound Angle Crashes	3	2	- 33.3 %

### **Overall Summary Results**

Total Crashes:	- 89 %	(reduction)
Total Crash Severity:	- 84 %	(reduction)
Target Crashes:	- 85 %	(reduction)
Target Crash Severity:	- 85 %	(reduction)
Volume:	- 16 %	(reduction)

### **Additional Summary Results**

Angle Crashes (Target):	- 88 %	(reduction)
Northbound-Westbound Angle Crashes:	- 100 %	(reduction)

### **Items for Discussion/Concerns**

Overall, target crashes were reduced by 85 percent (20 to 3 crashes). Additionally, there were no injury crashes in the after period.

The intersection experienced an elimination of Northbound-Westbound angle crashes in the after period (7 to 0 crashes).

### **Data Prepared For**

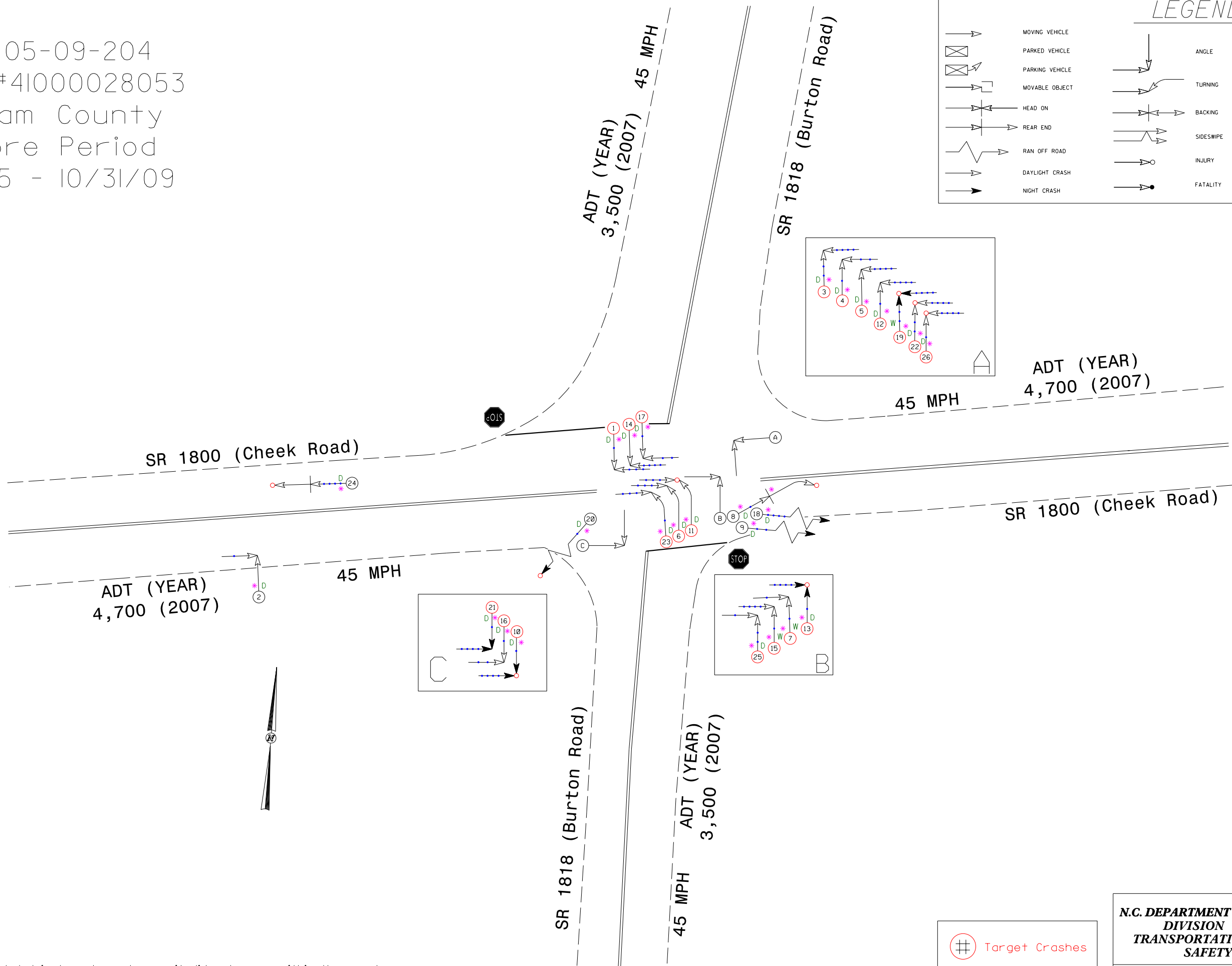
The Traffic Safety Unit *of the*  
Transportation Mobility and Safety Division *of the*  
Division of Highways *of the*  
North Carolina Department of Transportation

### **Data Prepared By**

Principal Investigator: Elizabeth Scott, EI  
Work Group/Consultant: Stantec Consulting Services Inc.  
Date: April 10, 2014

SS# 05-09-204  
Order#41000028053  
Durham County  
Before Period  
10/1/05 - 10/31/09

LEGEND			
	MOVING VEHICLE		ANGLE
	PARKED VEHICLE		TURNING
	PARKING VEHICLE		BACKING
	MOVABLE OBJECT		SIDESWIPE
	HEAD ON		INJURY
	REAR END		FATALITY
	RAN OFF ROAD		9 MPH OR LESS
	DAYLIGHT CRASH		10 MPH TO 19
	NIGHT CRASH		20 MPH TO 29
			30 MPH TO 39
			40 MPH TO 49
			50 MPH TO 59
			60 MPH TO 69
			70 AND UP
			SPEED UNKNOWN
			A ANIMAL
			P PEDESTRIAN
			B BICYCLE
			T TRAIN
			* DRIVER AT FAULT
			D DRY
			W WET
			I ICY OR SNOWY
			O Other



\*Crash #2 not included in target crashes as it did not occur within the countermeasure area

Target Crashes

N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
TRANSPORTATION MOBILITY and  
SAFETY DIVISION

Date: 4/7/2014

Prepared By: ESS

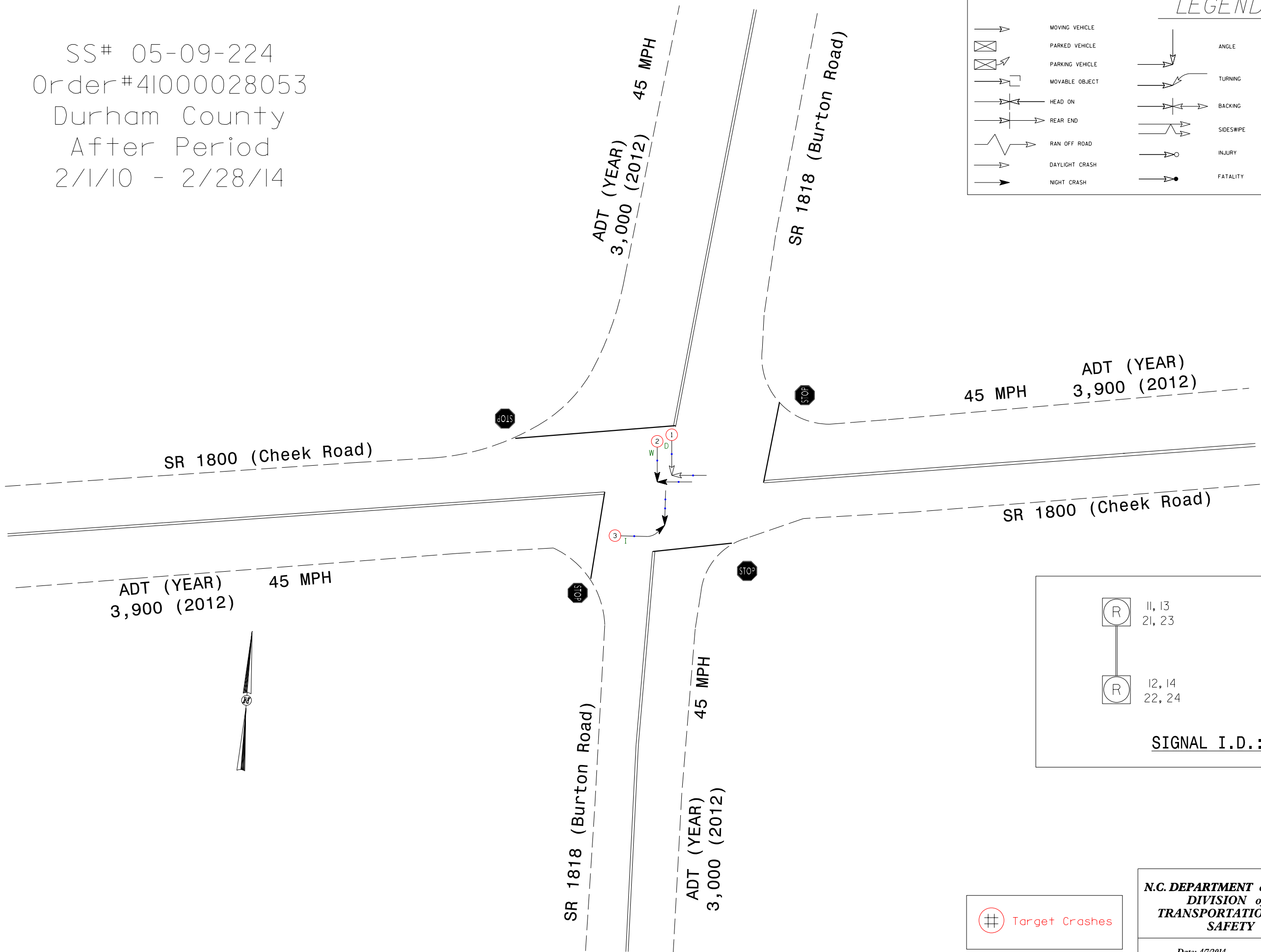


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SS# 05-09-224  
Order#41000028053  
Durham County  
After Period  
2/1/10 - 2/28/14

LEGEND

	MOVING VEHICLE		ANGLE		9 MPH OR LESS		A ANIMAL
	PARKED VEHICLE		TURNING		10 MPH TO 19		P PEDESTRIAN
	PARKING VEHICLE		BACKING		20 MPH TO 29		B BICYCLE
	MOVABLE OBJECT		SIDESWIPE		30 MPH TO 39		T TRAIN
	HEAD ON		INJURY		40 MPH TO 49		* DRIVER AT FAULT
	REAR END		FATALITY		50 MPH TO 59		D DRY
	RAN OFF ROAD				60 MPH TO 69		W WET
	DAYLIGHT CRASH				70 AND UP		I ICY OR SNOWY
	NIGHT CRASH				SPEED UNKNOWN		O Other



SIGNAL I.D.: 05-1789

Target Crashes

N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
TRANSPORTATION MOBILITY and  
SAFETY DIVISION

Date: 4/7/2014

Prepared By: ESS



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